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By Thomas O'Toole Washington Post Staff Writer

U.S. government sources yesterday denied published reports that the United States had detected a nuclear explosion last December in the atmosphere over the remote regions of the South Atlantic below South Africa.

"There is no disagreement about this in what you might call expert circles," one authoritative source said. "There's no question a surveillance satellite saw something, but it was not

a maclear explosion."

he Johannesburg Star reported yesterday that U.S. intelligence experts said a satellite had seen the light flash of a nuclear explosion in the sky over the South Atlantic in the early hours of Dec. 16, 1980. Columnists Rowland Evans and Robert Novak yesterday reported that monitoring devices had detected a similar flash on

Both reports said the flash was seen in the same remote region of the South Atlantic where the light of

Sept. 22, 1979.

Expert nuclear weapons sources

said yesterday that one night last December a secret infrared satellite detected something in the skies south of South Africa. The site is near where on Sept. 22, 1979, a Vela satellite detected what most experts think was a clandestine nuclear explosion. Sources said no one believes the December sighting was the heat signature of a nuclear explosion, because it was too weak and too brief.

Sources said they are convinced the infrared satellite had seen the heat trail of a meteorite burning up in the atmosphere. The heat signal seen by the satellite, one source said, may even have been a violent lightning storm in the South Atlantic below South Africa.

Despite general agreement that last December's sighting was not a nuclear explosion, sources say there still is strong disagreement about the September 1979 sighting. Most experts insist a double flash of light that exactly matched the signature of an atomic explosion is what Vela wit-

nuclear weapons testing in the remote regions of the South Atlantic.